

PINE STREET BRIDGE (Freight Depot Bridge)  
Pine Street (State Route 66) spanning  
Cumberland River  
Pineville  
Bell County  
Kentucky

HAER NO.KY-12

HAER  
KY  
7-PINVI,  
1-

PHOTOGRAPHS  
WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
NATIONAL PARK SERVICE  
Department of the Interior  
Southeast Region  
Atlanta, Georgia 30303

HISTORIC AMERICAN ENGINEERING RECORD

HABS  
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Pine Street Bridge  
(Freight Depot Bridge)

HAER No. KY-12

Location: Pine Street (State Route 66) over Cumberland River,  
Pineville, Bell County, Kentucky

Date of Construction: 1929

Present Owner: State of Kentucky  
Bureau of Highways  
Kentucky Department of Transportation  
Frankfort, Kentucky 40601

Present Use: Presently closed. Used as vehicular bridge until 1985

Significance: The bridge derives its significance from its  
representative nature as an open spandrel deck  
concrete arch bridge and from its associations with  
the Luten Bridge Company and the historic Cumberland  
Ford crossing.

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LaVergne, Tennessee 37086  
December 1985

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(Page 2)

The Pine Street Bridge, a two-span concrete arch bridge erected in 1929 by the Luten Bridge Company and historically referred to as the Freight Depot Bridge, is located in Pineville, the county seat of Bell County, Kentucky. Bell County is located in the extreme southeast corner of the State in the heart of the Cumberland Mountains. The town of Pineville is situated in a valley next to Pine Valley in a bend of the Cumberland River which bisects the county. The bridge is located on the eastern edge of Pineville and spans the Cumberland River with its northern terminus adjacent to the Louisville and Nashville railroad tracks and depot; hence the local name, the Freight Depot Bridge. The bridge primarily provides access to the Straight Creek community in the northern section of Bell County (see Figure 1 for a location map).

Pineville is historically noteworthy for its location on the almost legendary route of pioneer migration known as "The Wilderness Road." First laid out for European use by Daniel Boone in 1775, the route in large part followed the aboriginal trade and travel route known as "The Warriors Path." Passing through Cumberland Gap a few miles to the south, both the "Warriors Path" and the "Wilderness Road" forded the Cumberland River at a point known as Cumberland Ford and located approximately one-tenth of a mile downstream from the Pine Street Bridge. However, U. S. Highway 25, which was constructed in the 1920s, is the modern highway which most closely approximates the "Wilderness Road" route. The modern road parallels the Cumberland River about a mile downstream from the historic crossing. Due to the construction of Highway 25, the Pine Street Bridge, which is located relatively close to the historic crossing, has since the 1920s primarily provided access to the northern portion of Bell County.

Nevertheless, as successor to the earlier ford, the Pine Street Bridge marks the site of a river crossing of importance during literally hundreds of years of human history. It is estimated that from 1775 to 1800 alone, over 200,000 emigrants seeking new lands and a new life on the Kentucky frontier passed along the "Wilderness Road" and through the community of "Cumberland Ford," now Pineville.

These settlers and emigrants were attracted by the more pleasing prospects provided by the fertile soil and rolling terrain of the Kentucky Bluegrass; however, settlement of the mountainous portion of southeastern Kentucky was slow. Bell County, originally known as Josh Bell County, was not established until 1867, being created from portions of Harlan and Knox counties. Later, portions of Clay and Whitley counties were included. Situated in a central and strategic position, Cumberland Ford was selected as the county seat. In the 1880s, the rich natural resources of the southern Appalachians attracted foreign investment, and Bell County experienced an economic boom and a period of phenomenal growth. As a result of this growth, much of what is today Pineville was originally laid out in the late 1880s by the Pine Mountain Iron and Coal Company as a real estate development. In 1888, the Louisville and

Nashville Railroad reached the town. In the same year, the first permanent vehicular bridge, a through steel truss across the Cumberland River at the foot of Pine Street, was constructed. In 1889 the town was incorporated as Pineville, by which name it has since been known (see Figure 2).

By the 1920s, citizens in Pineville began to urge the city to replace the dilapidated 1888 bridge over the Cumberland River. By 1928, the truss bridge had been condemned, and only one vehicle was allowed on the bridge at a time.

Early in 1928, a citizens committee was appointed to investigate building a new bridge. At the request of this committee, the City Council, at its regular meeting on October 1, 1928, called a special meeting for the following week to discuss the committee's findings. At this meeting, the City Council concurred with the findings of the citizens committee regarding the necessity of replacing the bridge and agreed that a bond issue was the most feasible means of paying for the project. The Council then passed an ordinance to ask the voters at the November election to approve a \$40,000.00 bond issue to replace the Freight Depot Bridge.

The local newspaper, the Pineville Sun, was enthusiastic in its support for the bond issue and ran two editorials on the subject before the election. In its October 25, 1928, editorial, the paper stated:

#### THE BOND ISSUE

In the excitement of the presidential race residents of Pineville must not lose sight of the bond issue which will be voted on November 6. . .

The need or absolute necessity of some structure to replace the present bridge is apparent to everyone and there should be no objection to the expenditure. At any time the present bridge might fall and as it has been condemned by engineers the responsibility of replacing it immediately rests on the city. The Council has voted to submit the question to the voters and everyone should register to vote in favor of the proposal.

A new bridge crossing the river at that point will be an addition to Pineville and will provide an excellent outlet for the Straight Creek section. . .

In its second editorial, "Remember the Bond Issue" on November 1, 1928, the paper reiterated its support for the project, saying:

#### REMEMBER THE BOND ISSUE

. . . The bridge must be built. That is admitted by all. The present structure can not be repaired satisfactorily and the city is running a great risk every day that it permits the condemned structure to stand.

The Sun earnestly recommends that the bond issue be passed. There should not be a vote against. It will benefit the entire community, regardless of location. Don't forget the vote "Yes" on the special city ballot Tuesday.

On election day, the city of Pineville voted overwhelmingly for the bond issue with the total vote of 827 for and 175 against. Immediately after the election, Mayor M. D. Hoskins announced that he would appoint a committee to work with the City Council to construct the new bridge.

A special meeting of the City Council was called for November 12, 1928. At this meeting, the City Council sold an issue of \$40,000.00 in bonds for the construction of the bridge to Mangus and Company of Cincinnati, Ohio. The bid was par and was to accrue interest at five and one-half percent, plus a premium of \$630 on the entire amount. The bonds were to mature in thirty years.

Also, in early November, two committees were appointed. The Advisory Committee was composed of Dr. M. Bradenbur, George H. Reese, Ray Moss, R. M. Watt, R. W. Johnson, J. S. Chappell, Dr. J. G. Foley, and L. C. Powers. The Engineering Committee was composed of F. W. Graham, H. M. Yeager, A. B. Culton, P. M. Sherwin, John Bailey, and Arthur Powers. At this point, the committees agreed not to take any action until they conferred with the State Highway Commission, since there was a possibility that this road would become a state route. The committees also wanted to more thoroughly evaluate the type of bridge to be built, since many people were advocating a concrete bridge rather than another steel truss bridge.

In December, the State Highway Commission sent two bridge engineers, H. R. Creel and Mr. Nolan, to study the bridge. They investigated the existing bridge and its location as well as a new location. They agreed to provide the city with cost estimates for repairing the existing bridge as well as cost estimates for the proposed new bridge. They also agreed to prepare

plans for a new bridge which would be submitted to the City Council for its use. Utilizing this information, the Council then planned to decide what type of bridge to build.

At a City Council meeting on January 7, 1929, F. W. Graham, chairman of the city's engineering committee and the city's liaison with the State Highway Commission, reported on the State's findings. The State estimated that it would cost about \$18,000.00 to repair the existing truss bridge, but that it would again need major repairs in about seven or eight years. The State also estimated that a new concrete bridge that met the State's specifications would cost about \$60,000.00. Overall, it was the State's recommendations not to repair the existing bridge but to construct a new concrete bridge.

However, the City Council ultimately decided to delay judgement on the type of bridge to be built until after bids had been submitted for the new bridge. The city then announced that it would receive bids for the new bridge on February 4, 1929, and that those bids would then be considered at a meeting of the City Council later the same day. The contractors were to submit their own plans and specifications, allowing them the option of choosing their own type of bridge, either steel or concrete. However, the city specified that the new bridge must be able to carry two ten-ton tractors passing in the center of the bridge. The bridge was to be built on the existing location, and the new bridge could be built using the 1888 masonry (substructure). The city also stipulated that any plans selected for the new bridge would have to be approved by the State before the final contract was let.

Three companies submitted bids for the new bridge: The Luten Bridge Company of Knoxville, Tennessee; the Vincennes Bridge Company of Vincennes, Indiana; and the Champion Bridge Company of Wilmington, Ohio. Two bids were tentatively accepted which were then to be submitted to the State for approval. These bids were from the Luten Bridge Company which had bid \$40,000.000 for an all-concrete bridge and from the Vincennes Company which had bid \$37,834.00 for a steel superstructure with a concrete floor. The Champion Bridge Company's bid was for \$39,000.00.

Initially, the State did not approve either set of plans, stating that they did not completely conform to State specifications. The city's Engineering Committee was also concerned that Luten's proposed bridge would not handle the flow of water during flood conditions and would catch drift, endangering the bridge.

The major point of debate at this point centered on whether to build a steel or concrete bridge rather than which company to hire. Some members of the engineering committee were opposed to a concrete bridge, since the design would be lower and more susceptible to catching drift, while others argued that concrete was superior in strength.

The Pineville Sun, in its February 21, 1929 issue, favored a concrete bridge, stating:

#### A CONCRETE BRIDGE

The City Council in its deliberations on the matter of constructing a new bridge across Cumberland River at the freight depot seems to favor a concrete structure. This is fine reasoning and should be encouraged by the citizenship generally. A concrete bridge would be more desirable in every way and would add greatly to the appearance on that part of the city.

Aside from its appearance, and much more important, a concrete bridge would be better in the matter of upkeep and repairs. A steel bridge will require periodic painting with all the expense and trouble that this will entail. A steel bridge will not have the appearance of a concrete bridge and as the prices are so close together there is every reason why the concrete bridge should be favored.

However, careful consideration should be given the opinion of the state highway bridge engineer. It may become advisable some day to turn the bridge over to the state. . . The bidding concern has a good reputation for bridge building, we understand, and it is likely that they can back up any statement they may make in regard to the bridge they have proposed to build for \$40,000, but it is safer in the long run to have the contractor and the state highway forces in accord before the structure is given final approval. It is to be hoped that some agreement can be reached so that the work can go forward.

The debate over the new bridge continued at the March 4, 1929, meeting of the City Council. In response to concern about the adequacy of a concrete bridge in a flood, Mr. George Daugherty representing the Luten firm, agreed to raise the spring line of the ribs at the center pier. Daugherty also argued that

bridges of similar design had withstood streams of greater power than the Cumberland River. Mr. Riddle, representing the Vincennes Bridge Company, also attended the City Council meeting and advocated the use of a steel structure. The City Council finally decided that constructing the concrete bridge was in the best interest of the city and unanimously awarded the bridge contract to the Luten Bridge Company as the low bidder on a concrete structure.

The company selected to design and erect the Pine Street Bridge, the Luten Bridge Company of Knoxville, Tennessee, was founded in 1901 by Daniel B. Luten in Indianapolis, Indiana. Luten's background was in civil engineering, and he had taught engineering at both the University of Michigan and at Purdue University for a total of six years. During these years, he experimented with various arch designs and the relatively new building material of concrete.

In 1900, Luten left Purdue University and practiced general civil engineering for one year. Then, around 1901, Luten moved to Indianapolis to specialize in the design and construction of concrete arch bridges. He formed his own company and called it the National Bridge Company. This firm was listed in the Indianapolis City Directory under that name from 1903 until 1916. But, from 1917 to 1919, the firm's name disappeared and Luten was individually listed as an engineer. From 1920 to 1941, the firm was listed as the Luten Engineering Company. From 1942 until 1945, shortly before his death at the age of 76, Luten was individually listed as a map manufacturer.

During its existence, Luten's firm specialized in concrete arch bridges. Luten himself was a pioneer in the design of concrete arches and received several patents in that field. He was also a national leader in encouraging the use of concrete arch bridges over many types of steel truss bridges. Luten claimed that concrete bridges were practically indestructible and unaffected by weather. Another advantage was that labor and materials were usually available locally. Since concrete bridges did not rust, did not need new wooden decks installed every few years, nor need painting as steel trusses did, they seemed to Luten to be substantially superior.

Apparently Luten was successful in promoting the use of concrete arch bridges. His firm grew and, by 1907, claimed to have erected over 700 such bridges. Also, by 1907, Luten's company had representatives working alone or through previously established companies in Los Angeles, Topeka, Chicago, Iowa, Connecticut, and Philadelphia. By the early 1910s, his firm had designed and erected over 4,000 concrete arch bridges and had twenty-four engineers located throughout the United States.

Around 1914, George Daugherty began working in Tennessee as an agent for the Luten Bridge Company's branch office in Pennsylvania. By 1915, he had opened a branch office in Knoxville. In the 1920s, at the Knoxville office, George Daugherty was president, W. H. Long as vice president, L. G. Brown was

treasurer, and D. H. Daugherty was secretary. As was typical in the 1930s, the Depression reduced the firm's work load and its size. Although the Luten Bridge Company is listed in the city directories until 1946, Daugherty's other interests (the McGill and Daugherty contracting firm from 1936 to 1941 and the Daugherty and Waters contracting firm from 1941 until Daugherty's retirement) were also listed at the same address. During its existence, the Luten Bridge Company was a very prolific firm and built numerous bridges in the Southeast, many of which remain.

After hiring the Luten Company, the City Council, at its March 4, 1929, meeting, approved a resolution naming William Low, James H. Jeffries, and City Attorney E. B. Wilson a special committee to ask the Bell County Fiscal Court to assist in the cost of erecting this bridge. The city of Pineville reasoned that many county residents used the bridge and, thus, Bell County should assist in its construction. Bell County refused to participate in paying any of the bridge's cost. Ultimately, the city of Pineville filed suit on the case, and the Bell County Circuit Court upheld the county's position. However, in December of 1929, the Court of Appeals reversed that decision and ruled the Bell County had to pay up to half the cost of the bridge.

Also at this meeting, the council hired H. M. Yeager as the city's engineer for the new bridge and Pearl Osborne, formerly employed with the State Highway Commission, as inspector. Both men were paid a salary of \$150.00 a month.

Shortly before plans for the new bridge were finalized, on Friday, March 22, 1929, Pineville was struck by the worst flood in its history. This event caused some last minute jitters regarding the new bridge and resulted in a lengthy discussion at the next council meeting. Graham, head of the Advisory Committee, charged that if the new bridge had already been erected, the flood would have destroyed it. Luten's representatives denied these charges. After considerable discussion, the parties agreed the the plans would be checked again by H. M. Yeager, Pineville's engineer. After inspecting the plans, Yeager recommended a few changes to which the Luten firm agreed.

About this time, Councilman C. C. Simpson was placed in charge of raising money to construct a detour to use while the new bridge was under construction. Simpson collected over \$500.00 from thirty-five local businesses which contributed from \$2.00 to \$100.00 each. The city added \$300.00 to this sum. Of this money, \$791.91 was spent to construct the detour.

The Luten Company began work on the new bridge on April 15, 1929, with F. T. Frey as Luten's construction engineer. The bridge erected was a two span open spandrel deck concrete arch bridge with two approach spans. The substructure was concrete, and the piers had nosings on the upstream side. The bridge was 362 feet in length, and the curb-to-curb width was 18.3 feet. The bridge carried two lanes of traffic and had a 3.8 foot sidewalk on the

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upstream side. The bridge contained four spans, one 44-foot continuous reinforced concrete deck girder approach span, two 150-foot concrete arches, and one 17-foot reinforced concrete deck girder approach span. Each of the two open spandrel arches contained three reinforced concrete ribs with two pairs of crossed (X) bracings on each span. Extending upward from the arch line were reinforced concrete compression posts on which the deck rested. Atop the deck was a concrete railing done in the post and rail design. The railing originally had six light fixtures, two at each end and two in the middle. These fixtures were erected for an additional cost of \$600.00. A plaque on the railing credits the design to Pettyjohn Art Concrete Company of Terre Haute, Indiana. None of these six fixtures remain.

A bronze bridge plaque was located on the upstream rail. In addition to stating that the bridge was designed and built by the Luten Company of Knoxville, the plaque stated the the bridge was erected by the city of Pineville with Dr. M. D. Hoskins as mayor. It also lists the Board of Council as C. C. Simpson, R. P. Caton, Joe Bain, Hiram Fee, Richard Dyghe, and J. H. McDonald. Also listed on the plaque were E. B. Wilson, City Attorney; P. T. Cairns, Clerk; and H. M. Yeager, Engineer (see Figure 3 for a drawing of the bridge).

As work on the bridge neared completion, the Kiwanis Club appropriated \$50.00 and appointed a committee composed of R. H. Barker, George Tinley, and Pat Caton to work with the City Council to arrange a celebration marking the opening of the new bridge. The City Council also appropriated \$50.00 and appointed Councilmen Seal, McCody, and Woolum to serve on its committee.

The first celebration was a luncheon banquet at the Continental Hotel on Tuesday, December 24, 1929, hosted by George Daugherty of the Luten Company and presided over by attorney E. B. Wilson. At the banquet, Mr. Daugherty spoke on "What the Luten Bridge Company Thinks of Pineville and Its New Bridge." Other speakers included E. B. Wilson who spoke on "Pineville of the Last Four Years," H. Clay Rice who spoke on the future and Pineville, and H. M. Yeager who spoke about the construction of the bridge. Also, Laura Creech sang and was accompanied by Mary Asher. In honor of the Luten Bridge Company, the city presented Daugherty with a photograph of the new bridge with the names of the two councils (the previous council and the recently elected council) on the back of the photograph signed to a resolution praising the bridge company.

That afternoon, the second ceremony, the formal opening of the new bridge, was held at 2:00 p.m. (although the bridge had actually been opened to traffic on Monday). Welcoming remarks were made by the recently-elected Mayor Joe Bain and by Straight Creek resident Dr. J. H. Hendren. Former Mayor M. D. Hoskins also spoke as the representative of the old council, under whose term the bridge had been built.

In an editorial on December 19, 1929, the Pineville Sun summed up the feeling of many residents when it said:

#### THE NEW BRIDGE

The opening of the new bridge spanning Cumberland River is an event of great significance in this section of Kentucky. It means that Pineville has taken a forward step and that this step is sure to result in improved conditions in our city.

The city should be proud of the work done by the Luten Bridge Company. We feel that they have done a most credible piece of work. To all who had a part in the building of this bridge we extend congratulations.

In the early 1980s, the Kentucky Department of Transportation initiated a historic bridge survey. During this survey, the Kentucky Department of Transportation inventoried forty-one concrete arch bridges in Kentucky. Of these, six were of the open spandrel design (five deck arches and one through arch). Of the forty-one bridges, four were known to have been erected by the Luten Company (three by the Pennsylvania branch office and one, the Pine Street Bridge, by the Knoxville branch office).

From these forty-one bridges, the Kentucky Department of Transportation selected five bridges that it felt were eligible for inclusion to the National Register of Historic Places and submitted a determination of eligibility to the Keeper of the Register in 1982. Included in this determination of eligibility was the Pine Street Bridge. Its inclusion was based on its association with the historic crossing at Cumberland Ford and as a representative example of a once standard bridge design. Also included in the determination of eligibility was one other open spandrel deck arch and one open spandrel through arch as well as two filled spandrel concrete bridges erected by Luten. All of these bridges, including the Pine Street Bridge, were subsequently determined eligible.

The Army Corps of Engineers also submitted an individual determination of eligibility in March 1982 as a result of its flood control project in Pineville. Subsequently, the bridge was determined eligible on April 7, 1982. An ongoing flood control project in Pineville and the neighboring community of Wallsend involves floodwall modifications and extensions in Pineville and levee extensions and modifications in Wallsend. Also, Highway 25E will be relocated from Tennessee Avenue and rerouted atop the new

floodwall. Due to the change in grade and the inadequacy of the existing Pine Street Bridge during high water, the construction of a new Pine Street Bridge across the Cumberland River was necessitated. Consequently, the old Pine Street Bridge needs to be removed, so as not to be an obstruction to water flow during flood conditions. The bridge is scheduled for demolition in December 1985.

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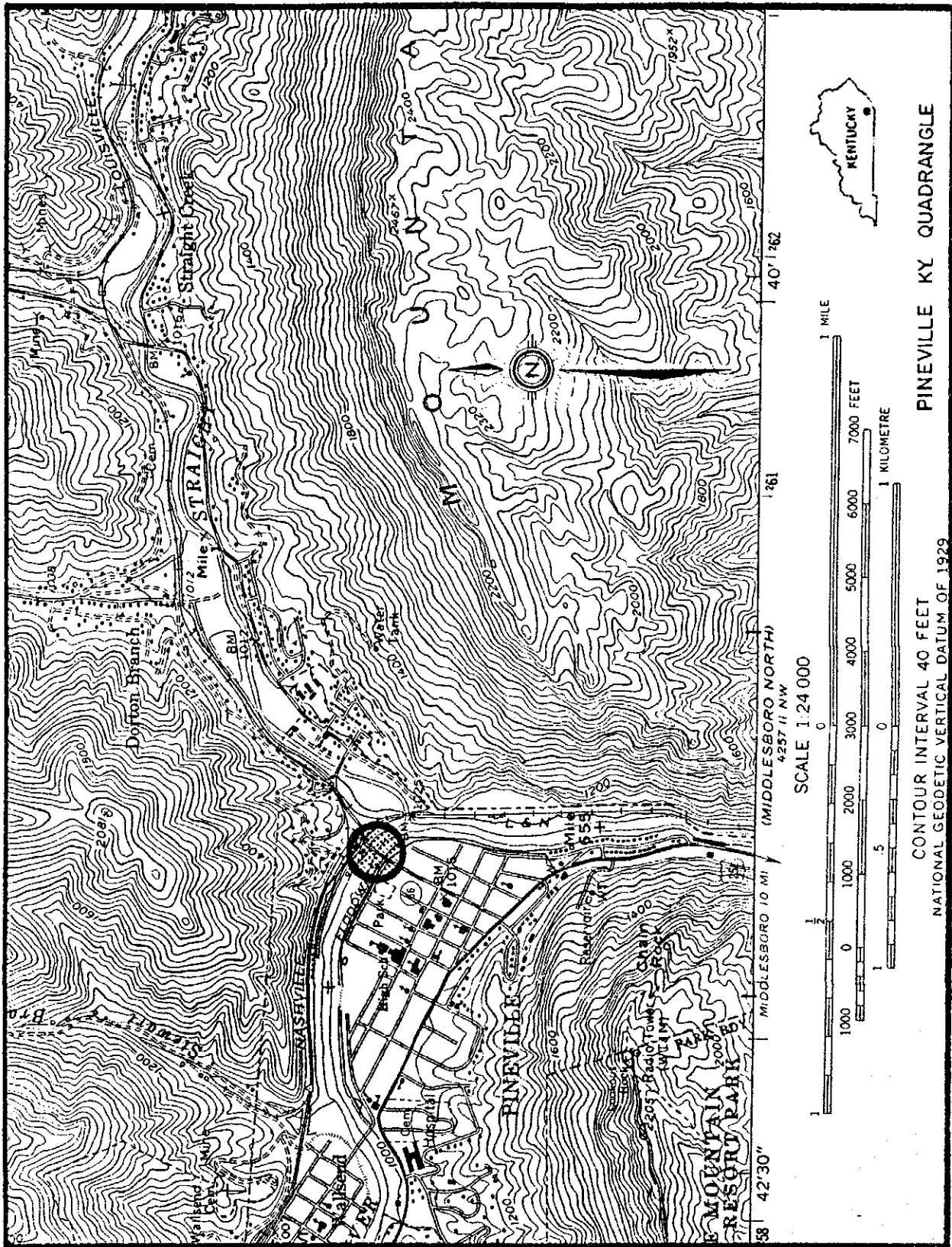


FIGURE 1: LOCATION MAP - PINE STREET BRIDGE

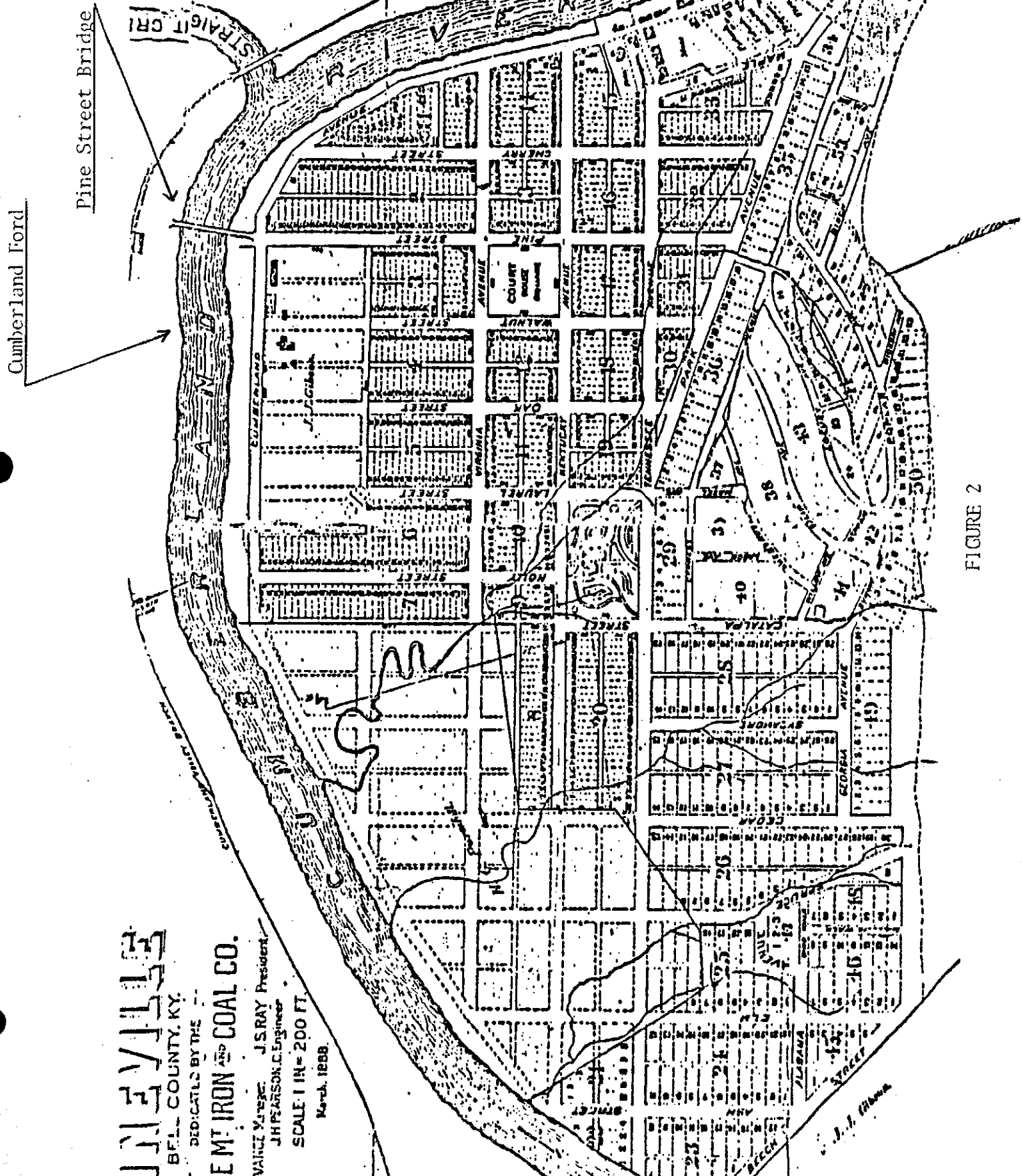
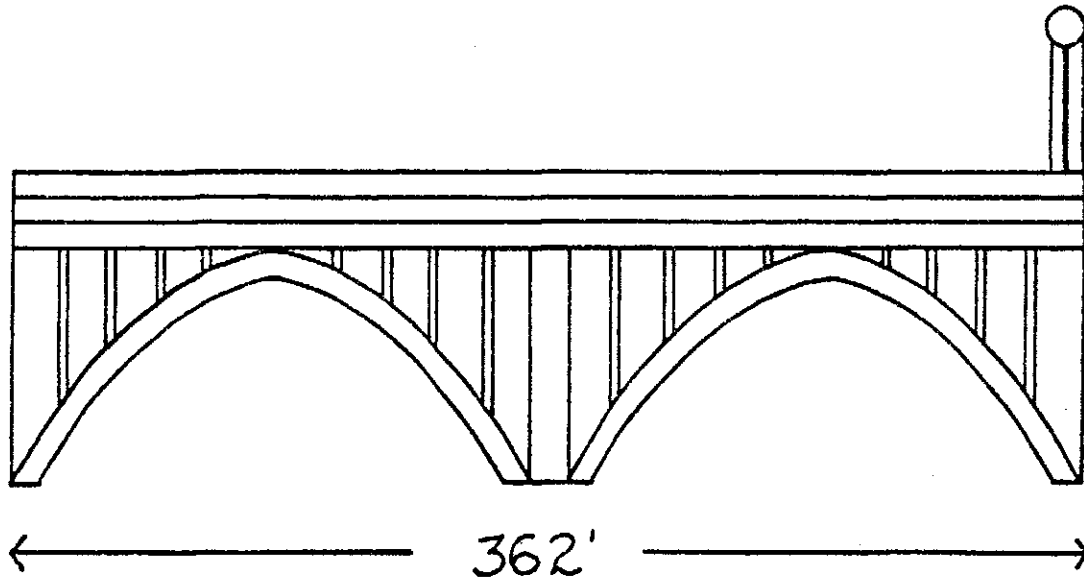


FIGURE 2

**PINEVILLE**  
BELL COUNTY, KY.  
DEDICATED BY THE  
**THE M. IRON & COAL CO.**  
VANZEL Y. YERGEN, J. S. RAY, President  
J. H. PEARSON, C. Engineer  
SCALE 1 IN = 200 FT.  
March, 1888

FIGURE 3



DRAWING OF THE PINE STREET BRIDGE

(From G. D. Rawlings, A Survey of Truss, Suspension, and Arch Bridges in Kentucky (Frankfort: Kentucky Department of Transportation, 1982), plate 55.